

C 31714

(Pages : 2)

Name.....

Reg. No.....

**COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING)
DEGREE EXAMINATION, JUNE 2007**

EC 04 108—BASIC ELECTRONICS

(2004 Admissions)

[Common for EC, BM, BT, AI, IC]

Time : Three Hours

Maximum:- 100 Marks

Answer all questions.

Part A

- I. (a) Explain motion of electron in an electric field.
(b) Explain the principle of measurement of resistance using multimeter.
(c) Explain with examples colour coding and tolerance of resistor.
(d) Explain the V.I. characteristics of zener diode.
(e) Define Q-point and explain.
(f) Explain the need for biasing of a transistor.
(g) Draw and explain the function of inductive filter.
(h) What is bleeder resistance ? Explain.

(8 × 5 = 40 marks)

Part B

- II. (a) Explain electron motion in perpendicular electric and magnetic field.

(15 marks)

Or

- (b) Explain the following :—

- (i) Magnetic focussing.
(ii) Electrostatic focussing.
(iii) Triode.

(3 × 5 = 15 marks)

- III. (a) Explain the principle of working different types of relays.

(7 marks)

- (b) Explain step-up and step-down transformers.

(8 marks)

Or

Draw the Common-Base configuration of transistor and explain its input and output characteristics.

(15 marks)

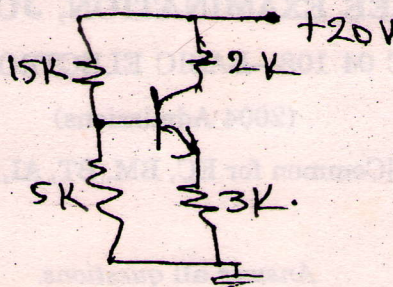
- IV. (a) Draw various biasing technique and explain.

(15 marks)

Or

Turn over

- (b) (i) For the circuit shown below, draw the d.c. load line and mark the Q-point. Assume silicon transistor.



(9 marks)

- (ii) Explain any *one* compensation circuits used in transistor amplifier.

(6 marks)

- V. (a) Draw the circuit of full wave rectifier and derive ripple factor, rectification efficiency and PIV.

(15 marks)

Or

- (b) (i) Draw the circuit of simple zener voltage regulator and explain its working principle.

(7 marks)

- (ii) Draw the circuit of transistor shunt voltage regulator and explain.

(8 marks)

[4 × 15 = 60 marks]